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AGRICULTURAL MEMORANDUM NO 436
DRY SPELLS IN MARCH IN EASTERN ENGLAND

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Ag Mem 433 dealt with Dry Spells in April, using data from previous work.

The following data analyses, in a similar fashion, rainfall records from 11 stations in Eastern England during the 20 years 1949-1968. The cumulative frequencies can be smoothed into a series

$$N, NP, NP^2, NP^3,$$

where N is number of spells of 3 dry days or more, NP is spells of 4 dry days or more, etc with the following results:-

	N	P
Nottingham	51½	0.76
Cranwell	44	0.75
M. Mowbray	48	0.76
Wellingboro	44	0.79
Sandringham	48½	0.74
Sprowston	48½	0.73
Thetford	47½	0.77
Cambridge	44	0.80
Bedford	47	0.78
Aylesbury	50	0.77
Watford	42	0.80

If a given operation needs 4 consecutive dry days in March, there will have been 2 opportunities in a dry spell of 5 days, 3 in 6 and so on.

It is thus possible to find the number of years in 20 when 1 or more, 2 or more, etc of these opportunities occurred. Similar assessments can be made for a requirement of 5 or 6 consecutive dry days.

An opportunity of 4 consecutive dry days has occurred at least twice in 16-19 years out of 20 at the various sample sites - mean 17.7.

An opportunity of 5 consecutive dry days has occurred at least twice in 13-16 years out of 20 - mean 14.8.

An opportunity of 6 consecutive dry days has occurred at least twice in 10-15 years out of 20 - mean 12.9.

Any comments or suggestions on this paper should be referred to the author.

Meteorological Office
Bracknell
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Number of years in 20 with a given number of dry spells of 5 days

	1 or more	2 or more	3 or more	4 or more	5 or more	6 or more	7 or more	8 or more	9 or more	10 or more
Nottingham	17	15	14	14	13	12	9	5	3	2
Cranwell	17	15	14	11	8	6	6	4	2	2
M. Mowbray	17	16	14	13	12	9	7	5	4	3
Wellingboro	17	16	15	13	12	11	10	8	6	4
Sandringham	16	13	12	8	8	8	7	6	5	4
Sprowston	18	14	10	10	9	7	7	7	5	3
Thetford	17	15	12	10	10	8	8	6	5	5
Cambridge	17	16	15	13	12	11	11	8	7	6
Bedford	19	15	14	14	13	10	9	8	4	3
Aylesbury	16	13	13	13	13	12	10	9	7	6
Watford	18	15	14	13	13	13	12	11	8	5
Mean	17.2	14.8	13.4	12.0	11.2	9.7	8.7	7.0	5.1	3.9

Number of years in 20 with a given number of dry spells of 6 days

	1 or more	2 or more	3 or more	4 or more	5 or more	6 or more	7 or more	8 or more	9 or more	10 or more
Nottingham	15	14	14	12	9	7	4	2	2	2
Cranwell	15	13	9	7	6	6	3	2	2	2
M. Mowbray	15	13	13	10	7	7	4	4	2	2
Wellingboro	16	14	13	12	10	9	7	4	3	2
Sandringham	13	10	8	8	8	7	6	4	4	3
Sprowston	11	10	10	7	7	7	6	3	1	1
Thetford	12	12	10	9	8	7	5	5	4	4
Cambridge	16	15	13	12	11	9	7	6	6	5
Bedford	15	14	14	13	9	9	4	3	3	2
Aylesbury	13	13	13	12	10	9	7	6	5	5
Watford	15	14	13	13	12	12	9	6	3	3
Mean	14.2	12.9	11.8	10.5	8.8	8.1	5.6	4.1	3.2	2.8

Chances (out of 100) of a dry spell in March

	3 or more	4 or more	5 or more	6 or more	7 or more	8 or more	9 or more	10 or more	11 or more	12 or more	15 or more days
Nottingham	100	95	85	75	70	60	50	40	30	15	10
Cranwell	95	85	85	80	70	45	35	30	25	15	10
M. Mowbray	100	95	85	80	70	60	55	40	30	15	5
Wellingboro	100	100	85	80	70	65	55	40	40	30	10
Sandringham	100	90	80	70	55	45	45	45	35	25	15
Sprowston	100	100	90	55	50	40	35	35	35	20	5
Thetford	100	100	85	65	65	50	50	40	35	20	15
Cambridge	100	95	85	80	75	65	55	45	40	25	15
Bedford	100	100	95	75	70	65	60	40	40	20	5
Aylesbury	95	90	80	65	65	65	50	45	40	35	5
Watford	100	95	90	75	70	65	60	55	55	35	10
Mean	99	95	86	73	66	56	50	41	37	23	10

Number of years in 20 with a given number of dry spells of 4 days

	1 or more	2 or more	3 or more	4 or more	5 or more	6 or more	7 or more	8 or more	9 or more	10 or more
Nottingham	19	18	17	14	14	14	13	13	8	6
Cranwell	17	17	16	14	12	12	8	6	4	3
M. Mowbray	19	18	16	15	15	13	11	11	8	5
Wellingboro	20	19	17	15	15	13	11	11	9	9
Sandringham	18	16	16	14	11	9	8	7	6	6
Sprowston	20	18	15	14	12	9	9	8	7	6
Thetford	20	17	17	16	12	10	10	9	7	7
Cambridge	19	17	17	16	14	12	11	11	10	10
Bedford	20	19	17	15	14	13	11	10	9	8
Aylesbury	18	17	14	14	13	13	13	12	10	9
Watford	19	19	15	15	14	13	13	13	12	10
Mean	19.0	17.7	16.1	14.7	13.3	11.9	10.7	10.1	8.2	7.2

Number of dry spells in 20 years in March

	3 days	4 days	5 days	6 days	7 days	8 days	9 days	10 days	11 days	12 or more days
Nottingham	14	12	4	4	3	3	3	2½	3	3
Cranwell	16	4½	6	3	6	2	1	½	2	3
M. Mowbray	11	11½	5	4	2	2	3	3½	3	3
Wellingboro	7	11	4	5	2	3	4	0	2	6
Sandringham	16	11	5	4	3	1	0	1½	2	5
Sprowston	12	8½	13	4	3	1	0	0	3	4
Thetford	10	12	8	3	3	0	3	½	4	3
Cambridge	10	8	2	4	3	5	2	1	4	5
Bedford	10	8	9	1	4	1	4	0	6	4
Aylesbury	15	6	9	1	3	5	1	1	1	8
Watford	7	8	5	5	2	3	1	0	4	7

Cumulative frequencies

	3 or more	4 or more	5 or more	6 or more	7 or more	8 or more	9 or more	10 or more	11 or more	12 or more
Nottingham	51½	37½	25½	21½	17½	14½	11½	8½	6	3
Cranwell	44	28	23½	17½	14½	8½	6½	5½	5	3
M. Mowbray	48	37	25½	20½	16½	14½	12½	9½	6	3
Wellingboro	44	37	26	22	17	15	12	8	8	6
Sandringham	48½	32½	21½	16½	12½	9½	8½	8½	7	5
Sprowston	48½	36½	28	15	11	8	7	7	7	4
Thetford	47½	37½	25½	17½	14½	11½	11½	8½	8	4
Cambridge	44	34	26	24	20	17	12	10	9	5
Bedford	47	37	29	20	19	15	14	10	10	4
Aylesbury	50	35	29	20	19	16	11	10	9	8
Watford	42	35	27	22	17	15	12	11	11	7